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Propolis gel compared with benzydamine hydrochloride in Preventing Oral Mucositis for Patients Irradiated in Head and Neck. A phase II study

V R Santos, V R A S Noronha, E N Abdo, L C Noman-Ferreira, F M V D da Silva, L F Correa and F P C L Persio
Minas Gerais Federal University(UFMG), Faculty of Dentistry, Belo Horizonte, Minas Gerais, Brazil

Background: Oral Mucositis refers to oral mucosa erythematous and ulcerative lesions and is caused by radiation dispensed in the treatment of malignant tumors of the head and neck. Propolis shows several biological activities such as antimicrobial, anti-inflammatory, anesthetic and cytostatic properties. These biological activities should prevent a mucositis. **Aim:** Verify the effectiveness of Brazilian green propolis in a mucoadhesive gel, alcohol free, in preventing oral mucositis in patients that underwent radiotherapy in head and neck region.

Methods: This research is characterized as a phase II study with a mean duration of 12 weeks of patients follow-up. The selection of participants groups was randomized, conditioned especially to the availability of the patients during radiotherapy. All patients signed informed consent prior to participation. **Results:** The 26 selected patients were distributed between two groups, 13 in the benzydamine group and 13 in the propolis group. Patients were assessed on an average of 4.5 times totaling 116 diagnoses of mucositis. The percentage of patients who had mucositis greater or equal to 2 in this study was 30.6% for the benzydamine group and 29.6% for propolis gel. For these patients the propolis gel shows a better performance in maintaining lower rates/grades and recovery of patients from the 17th session of radiotherapy.

Conclusion: the mucoadhesive gel propolis showed better results than benzydamine hydrochloride. However, a larger number of patients in phase III study should be approached to confirm these results.

vegneer2003@yahoo.com.br

14-3-3 - A Novel Regulator of the Oncogenic Wnt Signaling Pathway

Rina Rosin-Arbesfeld, Shiri Dovrat, Alona Zilberberg, Lital Lahav and Michal Caspi

A aberrant activation of the canonical Wnt signal transduction pathway is involved in a large number of human diseases and is implicated in most cases of colorectal cancer (CRC). β -catenin, the key effector protein of the canonical Wnt pathway, induces expression of Wnt target genes by binding to the T-cell factor/lymphoid enhancer factor (TCF/LEF) nuclear proteins. We have recently found that members of the 14-3-3 protein family are tightly involved in regulation of the Wnt pathway. We will provide evidence showing that 14-3-3 binds disheveled (Dvl) and glycogen synthase 3 β (GSK-3 β) to activate the Wnt signal. Importantly, 14-3-3 and β -catenin form "bleb-like" structures and are secreted via extracellular vesicles to induce Wnt signaling activity in target cells. Our data suggest a novel way of transducing the oncogenic Wnt signal in which β -catenin is regulated by 14-3-3 through the formation of extracellular "oncosomes" that contain both the 14-3-3 and β -catenin proteins.

arina@post.tau.ac.il